

CLAIMS

1. Safety device for maintenance personnel in elevators having no machine room and flexible tension member, the elevator booth comprising an upper median crosspiece (5) on its roof forming part of its support arcade, the drive machine being fixed at least to the top of a booth guide rail (21) on the side of the casing of the elevator, said device being characterised in that it comprises, with symmetry with respect to the median traction plane of the booth or to the median plane of the set of flexible tension members (17), at least two rigid rods (9) mounted sliding on the crosspiece (5) on one side and approximately parallel to the latter and able to be moved in an active outgoing position projecting from the crosspiece (5) so as to come opposite and simultaneously in contact with a corresponding stop (23) fixed at an adequate height on the booth guide rail (21), and in an inactive incoming position where they are out of range of said stop (23) corresponding to the normal functioning of the elevator, the functioning in maintenance or inspection mode of the elevator by a maintenance operator on the booth roof (3) only being allowed at the outgoing position of the rods (9) where a safety space for the maintenance operator on a working platform on the booth roof is embodied by the fact of applying the outgoing rods (9) on said guide rail stop (23).

2. Safety device according to claim 1, characterised in that said at least two rigid rods (9) are mounted sliding in relation to each other on a given trolley (7) which is mounted sliding under the upper crosspiece (5) not far from the latter and parallel to its median longitudinal plane.

3. Safety device according to claim 1 or 2, characterised in that said trolley (7) is equipped with a control lever (11) which allows the manoeuvring of rods (9) in either an outgoing or incoming position which can be locked by a dog clutch device (33) or similar device.

4. Safety device according to one of the preceding claims, characterised in that said trolley (7) can be mounted brought back into an outgoing position by an adequate spring element (27) which keeps the rods (9) in an outgoing position once they have been freed from the incoming position.

5. Safety device according to one of the preceding claims, characterised in that for the inspection or maintenance functioning mode of the elevator, it includes an electric contact (31) triggered in the outgoing position of the rods (9) and closing the elevator functioning control circuit, this contact being placed in series with a first control switch for authorising functioning in the inspection or maintenance mode, and possibly a second maximum travel safety contact for the elevator ordering stoppage of the elevator when the booth arrives a short distance from the stopping position so as to prevent it from moving.

6. Safety device according to one of the preceding claims, characterised in that said stop (23) is a metal flat bar secured by bolts to the rear wall of the guide rail (21) and cut with two symmetrically square folds (25) with respect to the longitudinal plane of the rail (21), these folds (25) each being on the vertical travel of a rod (9) to stop them simultaneously should the booth accidentally exceed the allowed travel height in the maintenance or inspection mode.

7. Safety device according to one of claims 1 to 5, characterised in that said stop (23) is an angle steel fixed by a clip rigidly tightened to the rail.

8. Safety device according to one of the preceding claims, characterised in that said stop (23) possibly comprises packing material protecting any metal/metal impact.

9. Safety device according to one of the preceding claims, characterised in that said stop (23) is placed on the booth guide rail at a height so that it allows a

maintenance operator on his working platform a minimum safety height of more than 180 cm.

10. Safety device according to one of the preceding claims, characterised in that the flexible tension members
5 (17) are ropes.

11. Safety device according to one of the preceding claim 1-9, characterised in that the flexible tension members (17) are belts.